L20 ANSWER 2 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1991-02357 BIOTECHDS

TITLE: Protease-producing microorganism;

thermostable alkaline protease preparation from

Nocardiopsis sp.; purification and

characterization

PATENT ASSIGNEE: Snow-Brand-Milk-Prod.

PATENT INFO: JP 02255081 15 Oct 1990 APPLICATION INFO: JP 1989-76421 30 Mar 1989

PRIORITY INFO: JP 1989-76421 30 Mar 1989 DOCUMENT TYPE: Patent

protease. (4pp)

LANGUAGE: Capanese
OTHER SOURCE: WPI: 1990-352802 [47]

AB A new protease-producing microorganism is an alkalophilic actinomycete, Nocardiopsis sp. OPC-210 (FERM P-1-508), with a dell wall of meso-type TTL/C model, confirmed by 2,6-diaminopimelic acid determination, and phospholipid of the FIII model. The strain originates from soil. The protease is purified by acetone precipitation, dialysis, anion-exchange chromatography on DEAE-Sephadex A-50 and cation-exchange chromatography on CM-Sepharose CL-68. The protease has the following characteristics: a mol.wt. of 21,000 (SDS-FAGE); an optimum pH of 10-12 (on casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 10 for 30 min, and complete inactivation at 70 deg; residual activity above 80 at pH 4-8 and 60 deg for 30 min, and

PSMB and EDTA. The protease is a useful thermostable alkaline

inactivation at pH 10; stabilization by calcium icrs; and inhibition by

 $L \cdot 1$ 

(FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002)

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002
LΙ
          349244 S PROTEASE?
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            6016 S ACID A) STABLE
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           43516 S ANIMAL (W) FEED?
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         2805615 S COMPOSITION?
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             2\%1 S Let (A) (SP. OF ALEA)
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4 DUP REM L30 (C DUPLICATES REMOVED)

Welcome to STN International NEWS 1 Web Page URLs for STN Seminar Schedule - N. America NEWS 2 Jan 2 BLAST(R) searching in REGISTRY available in STN on the Web NEWS : Jan 2: FSTA has been reloaded and mives to weekly updates NEWS 4 Feb 01 DKILIT now produced by FIZ Karlsruhe and has a new update frequency. NEWS -- Feb .- Addess via Tymnet and SprintNet Eliminated Effective 3/31/02 NEWS 6 Mar 0% Gene Names now available in BIOSIS - Mar .: TOWLIT no longer available NEWS NEWS - Mar da TROTHERMO no longer available US Provisional Priorities searched with P in CA/CAplus and USPATEULL NEWS 1. Mar Lt. LIFINSKI/CALC added for property searching in REGISTRY NEWS 11 Apr 0.0 PARENCHEM no longer available on STN. Use PARENCHEM2 instead. NEWS 12 Apr 08 "Ask CAS" for self-help around the clock NEWS I: Apr or spiritTelm: Beliad and Implementation of a New Subject Area NEWS 14 Apr 09 ZDB will be removed from STN NEWS 15 Apr 19 US Patent Applications available in IFICDE, IFIPAT, and IFIUDB NEWS 1: Apr UL Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS NEWS 17 Apr 22 BIOSIS Gene Names now available in TOKCENTER NEWS 1- Apr 31 Federal Research in Progress (FEDRIP) now available NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d, TURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002 NEWS HOURS FTN Operating Hours Plus Help Desk Availability NEWS INTER General Internet Information NEWS LOGIN Welcome Banner and News Items NEWS PHONE Direct Dial and Telecommunication Network Access to STN NEWS WWW CAS World Wide Web Site (general information) Enter NEWS followed by the item number or name to see news on that specific topic. All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

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FILE 'BIOTECHDS' ENTERED AT 13:58:51 ON 25 APR 2002 COPYRIGHT (C) LOOZ THOMSON DERWENT AND INSTITUTE FOR SCIENTIFIC INFORMATION FILE 'SCISEARCH' ENTERED AT 13:58:51 ON 25 APR 2002 COPYRIGHT (C) 1002 Institute for Scientific Information (ISI) (R) FILE 'HOAPLUS' ENTERED AT 13:58:51 ON 25 APR 2012 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. CUPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS) FILE 'NTIS' ENTERED AT 13:58:51 ON 25 APR 2002 Compiled and distributed by the NTIS, U.S. Department of Commerce. It contains copyrighted material. All rights reserved. (2002) FILE 'LIFESCI' ENTERED AT 13:53:51 ON 25 APR 2002 COPYRIGHT (C) 2002 Cambridge Scientific Abstracts (CSA) = s protease? LI 349244 PROTEASE: = s acid(a)stable L. 6016 ACID(A) STABLE = -s 11(a)1276 L1(A) L2 = s necadiresis -C----User Ereak-----> L4 0 NOCADIPOSISu es s nocardiposis L9 1 NOCARDIPOSIS -:----User Ereak-----> = rs notardiopui: Lo 699 MCCARDIOPSIS  $= \cdot$  s 11 and 16 55 I. AW 16 => s 12 and 17 L8 1 L2 AND L7 => a all  $(\mathbf{r}_{i}, \mathbf{r}_{i}) = (\mathbf{r}_{i}, \mathbf{r}_{i}) \cdot (\mathbf{r}_{i}, \mathbf{r}_{i}, \mathbf{r}_{i}) \cdot (\mathbf{r}_{i}, \mathbf{r}_{i}, \mathbf{r}_{i}, \mathbf{r}_{i}) \cdot (\mathbf{r}_{i}, \mathbf{r}_{i}, \mathbf{r}_{$ All and the second of the control of

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    17-12 (Food and Feed Chemistry)
     PATENT NO.
                      KIND DATE
                                           APPLICATION NO. DATE
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     W0 0001053276
                      A2 200103.6
                                            WD 2001-EP1153 20010205
     WO 0001058276
                       A3 20020.111
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BE, BY, BZ, CA, CH, CN,
             OR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GF, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KF, KR, KC, LJ, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NC, NG, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TD, UA, UG, US, UZ, VN, YU, CA, ZW, AM, AS, BY, KG, KZ, MD, RU, TJ, TM
         EW: 3H, 3M, KE, LS, MW, MC, SD, SL, S2, T2, U3, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FA, GB, GR, IE, IT, LU, MC, NL, PT, SE, TA, BF,
             BJ, CF, CG, CI, CM, GA, GH, GW, ML, MR, NE, SH, TD, TG
     US 2001016797 A1 20011004
                                           US 2001-779323 20010208
PRAI DK 2000-300
                             30000108
                       <u>A</u>
     US 2000-183133P
                      Р
                             20000217
AB
     Disclosed are acid-stable proteases
     homologous to those derived from strains of the genus Nocardiopsis
     , their use in animal feed, feed-additives and feed compns. contg. such
     proteases, and methods for the treatment of vegetable proteins
     using such proteases.
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     protease Nocardiopsis animal feed vegetable protein
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       Nocardiopsis
         acid-stable Nocardiopsis
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         [proteins; treatment with proteinases in manufa. feed]
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     Froteins, general, biological studies
     FL: FFD (Frod or feed use.; BICL Biological study); USES (Uses)
         vegetable; treatment with proteinases in manufq. feed)
     9001-32-7, Protease
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     EL: FFD (Food or feed use); BICL (Biclogical study); USES (Uses)
        (acid-stable proteases in animal feed)
     9001-11-2, .beta.-Galactanase 37278-89-0, Xylanase 37341-58-5, Phytase
     39746-28-6, Galactanase
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Lio ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS
           2001:597756 HCAPLUS
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D::
           135:152030
Т:
           Use of adid-stable proteases in animal feed
           Destergaird, Peter Rahbek; Stoeholm, Carsten
I.:
PA
           F Hoffmann-La Roche A.-G., Switz.
SO
           POT Int. Appl., 49 pp.
           CODEN: PIXMD2
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           17-12 (Food and Feed Chemistry)
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           PATENT NO.
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Р.:
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           Wo 2001055376
                                               A3 00020221
                   W: AE, AG, AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, BZ, CA, CH, CN,
                            TE, CU, CL, DE, DK, LM, DE, EE, EE, FI, GE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KF, KE, KC, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MN, MK, ME, NO, NE, PL, PT, EO, RU,
                            ND, SE, NG, SI, SK, NL, TJ, TM, TR, TT, TZ, NA, NG, NS, NZ, NN,
                            YU, CA, CW, AM, AC, BY, KG, KZ, MD, RU, TJ, TM
                   EW: GH, GM, KE, LS, MW, MC, SD, SL, SC, TC, UG, ZW, AT, BE, CH, CY,
                            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MI, NL, PT, SE, TR, BF,
                            BJ, CF, CG, CI, CM, GA, GN, GW, MI, MR, NE, SN, TD, TG
          US 2001006797 A1 20011004
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ΑВ
          Disclosed are acid-stable proteases homologous to those derived
           from strains of the genus Nocardiopsis, their use in
          animal feed, feed-additives and feed compast contg. such
          proteases, and methods for the treatment of vegetable proteins
          using such proteases.
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          protease Nocardiopsis animal feed
           vegetable protein
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                 animal feed)
          Vegetable
                 (proteins; treatment with proteinases in manufg. feed)
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349244 S PROTEASE? L .

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L14 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2002 ACS

AJCESSION NUMBER: 2001:597756 HCAPLUS

DOCUMENT NUMBER: 135:152030

TITLE: Use of acid-stable proteases in animal feed Cestergaard, Peter Rahbek; Sjoeholm, Carsten INVENTOR(S):

PATENT ASSIGNEE(S): F Hoffmann-La Roche A.-G., Switz.

STURCE: PGT Int. Appl., 49 pp.

CODEN: PIMMPO

POUNTING: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001051276	A2	20010816	WO 2001-EP1153	20010205
WO 2051056276	A3	20020221		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

AB Disclosed are acid-stable proteases homologous to those derived from strains of the genus Nocardiopsis, their use in animal feed, feed-additives and feed compns. contq. such proteases, and methods for the treatment of vegetable proteins using such proteases.

114 ANSWER 2 OF 9 MEDLINE DUPLICATE 1

ACCESSION NUMBER: 2001061976 MEDLINE

DOCUMENT NUMBER: 20498785 PubMed ID: 11042383

TITLE: Comparative characterization of two serine endopeptidases

from Nocardiopsis sp. NCIM 5124.

AUTHOR: Dixit V S; Pant A

CORPORATE SOURCE: Division of Biochemical Sciences, National Chemical

Labiratory, 411003, Pune, India.

SOURCE: 5100HIMICA ET BIOPHUSICA ACTA, (2010 Oct 18) 1523 (2-3)

261-8.

Journal code: AOW. ISSN: 0008-3002.

PUB. COUNTRY: Netherlands

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Pribrity Journals

ENTRY MONTH: 000012

ENTRY DATE: Entered STN: 20010312

Last Updated on STN: 20011323 Entered Medline: 20001228

AБ A protease-producing, crude oil degrading marine isolate was identified as Nocardiopsis sp. on the basis of the morphology, cell wall composition, mypolic acid analysis and DNA base composition. The Nocardiopsis produces two extracellular proteases, both of which are alkaline serine endopeptidases. Protease I was purified to homogeneity by chromatography on CM-Sephadex at pH 5.0 and pH 9.0. Protease II was purified using DEAE-cellulcse, Sephadex G-50, phenyl-Sepharose and hydroxyapatite chromatography. Protease I and II had almost similar M(r) of 21 kDa (Protease I) and 23 kDa (Protease II), pI of 8.3 and 7.0 respectively with pH and temperature optima for activity between 10.0 and 11.0 and about 61 degrees C. Specific activities were 152 and 14 U/mg respectively on casein. However, Protease I was antigenically unrelated to **Protease** II. Soth **proteases** were endopeptidases and required extended substrate binding for datalysis. Both proteases had collapenolytic and fibrinolytic activity but only Protease I has elastimaly is an unity. The proteases were compactifies in-like with respect to their amino acid compositions and N-terminal sequences.

L.4 ANSWER 3 OF 9 BIGTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI ACCESSION NUMBER: 1934-15413 BIOTECHDS TITLE: Bactericlytic enzyme preparation derived from

Nocardiopsis dassonvillet;

lytic enzyme for use as deodorant in surfactant

composition

LANGER ARE: English English Commence of the Necardiopsis of the Medical Necardiopsis o

The producing strain is N. dassonvillei NRRL 18350, NRRL 18364, NRRL 18349, or a mutant. The enzyme may also hydrolyze dell walls of Microbodous kristinae. The enzyme may be used in a surfactant composition with a Bacillus sp. alkaline protease (with at least 200 U bacteriolytic activity/g preparation and 0.3-3.0 Anson units protease/g). The enzyme is produced in submerged culture in the presence of C- and N-sources, and is recovered from the culture broth. A method for reducing body odor of clothes involves washing or rinsing clothes in water containing at least 1,000 U bacteriolytic enzyme preparation. In an example, NRRL 18349 was grown in 50 ml culture medium containing 20 g/l maltidextrin M-100, 21 g/l scybean meal, 5 g/l yeast extract and 2 g/l NaOl (pH 7.0) at 30 deg for 7. hr. The lytic activity against 3. aureus was 16.2 U/ml. (9pp)

L14 AMSWER 4 OF 9 MEDLINE DUPLICATE 2

ACCESSION NUMBER: 94227330 MEDIINE

DOCUMENT NUMBER: 94127830 PubMed ID: 7764689

TITLE: Purification and characterization of alkaline serine

protease from an alkalophilic Streptomyces sp.

AUTHOR: Yum D Y; Chung H C; Bai D H; Ch D H; Yu J H

CORPORATE SOURCE: Department of Food and Biotechnology, College of

COMPORATE SOURCE: Department of Food and Bictechnology, College of Engineering, Yonsei University, Sebul, Korea.

SOURCE: BIOSCIENCE, BICTECHNOLOGY, AND BICCHEMISTRY, (1994 Mar) 58

13: 470-4.

Journal code: BDE; 9208717. ISSN: 1916-8481.

PUB. COUNTRY: Japan

Jurnal; Article; (JOUENAL ARTICLE)

LANGUAGE: English

FILE SEGMENT:

ENTRY MONTH: 199406

ENTRY DATE: Entered STN: 19950803

Last Updated on STN: 20000303 Entered Medline: 13940607

AB SAP, an extracellular alkaline serine protease produced by Streptomydes sp. YSA-130, was purified to homogeneity by CM-Sephadex bolumn thromatography and orystallization. The enzyme was a monomeric protein with a molecular weight of 19,000 as estimated by SDS-PAGE and gel filtration. The amino acid composition and amino-terminal sequence of SAP were similar to those of other bacterial serine proteases, i.e., Streptomydes grossus proteases A and B, Lysabacter enzymogenes alphanistic protease and

Nocardiopsis dassonvilled subst. prasina OPC-21) alkaline serine protease NLP 1. The optimum temperature and pH for the enzyme activity were all degrees C and 1.1. The enzyme was stable up 50 degrees C, and between pHs 4 and 10. The activity was inhibited by Ag+, Hg2+, Co2+, socium dodecyl sulfate. N-bromosuccinimide, disappropyl phosphoroflucridate (DFP), 2,3-butanedione, 5,5'-dithiobis-(2-nitrobenzoic acid) (DTNE), itdoacetate, N-ethylmaleimide (NEM), phenylmethanesulfonyl fluoride (PMSF), and phenylglyoxal.

L14 ANSWER - OF 9 HUARIUS COPYRIGHT 2002 ACCESSION NUMBER: 1994:197001 HOLDSTO

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## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WD 9313193 W: JP, US	Al	19930708	WD 1992-DK383	19921018
FW: AT, BE,	CH, DE	, DK, ES, FR	R, GB, GR, IE, IT, LU	, MC, ML, PT, SE
EP 617734	Al	19341035	EF 1993-902091	19921218
EP 617734	Bl	19980909		
E: AT, BE,	DE, DK	, ES, FR, G	b, IT, NL	
AT 17691E	Ε	19951915	AT 1993-902091	19901018
ES 3134301	<b>T</b> 3	19991201	ES 1993-902091	19901018
US 5811332	A	19951922	US 1994-211903	19940424
PRIDRITY APPIN. INFO	.:		WO 1991-DH406	199.1720
			W0 1992-DK383	19921213

ΑĿ Proteases derived from members of the genus Nocardiopsis show better stability than other detergent proteases in the processe of bleaching systems comprising an enzyme exhibiting oxidase activity and/or an enzyme exhibiting peroxidase activity and H2O2 or a predursor of H202.

ANSWER 6 OF 9 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1993-01168 BIOTECHDS

TITLE: Determent additive containing cellulase and specific

protease;

useful as laundry surfactant

PATENT ASSIGNEE: Nevo-Nordisk

PATENT INFO: -WC 9218599 29 Oct 1992 APPLICATION INFO: WO 1992-DK116 10 Apr 1992 PRICRITY INFO: DK 1991-737 D2 Apr 1991

DOCUMENT TYPE: Patent LANGUAGE: English

OTHER SOURCE: WPI: 1992-382092 [46]

Surfactant additives or compositions contain a cellulase (EC-3.2.1.4) and a protease which is more specific than Badillus lentus serine protease. The protease is subtilisin (EC-3.4.21.14) Move (or its variants , a protease from Nocardiopsis dassonvillei NEAL 18133, a serine protease specific for glutamic acid and aspartic acid from Badillus licheniformis, or a trypsin (EC-3.4.21.4)-like protease from Fusarium DSM 2075. The cellulase is derived from a Humicola, Fasa: ium, Mydeliophthera, Thermomonospora, Badillus or Streptomydes sp. It is preferably immunity active with an antibody raised against a 43 hla reclulase of Humicola involens DSM 1011, and is most preferably this encyme itself; the specification includes the sequence .3.5 amino acids, of the enzyme and of the DNA that encodes it. The surfactant may also contain a lipase (EC-3.1.1.3), peroxidase (EC-1.11.1.7) and, or an amylase. The surfactant contains 0.001-1.0 mg of cellulase and 0.001-1.0 mg of protease/g of additive. The proteases are less active against the cellulase than previously used proteases so that the storage stability of the cellulase is improved. | 15pp

Fig. 5 decay for an finite, which specifies are consisting a term possible at  $(\alpha_{\rm p})$  , which

FATEUT AUGUSTEF: N vo Mordisk TANKET TERM

DOCUMENT TYPE: Patent LANGUAGE: English

OTHER SOURCE: WPI: 1991-238012 [32]

A lytic enzyme preparation (I) comprises a bacteriolytic enzyme (II) produced by Nocardiopsis dassinvillei G102-3 (NRRL 18349), 0119-6 (NERL 18050) and D38-3 (NERL 18364) which is able to hydrolyze Micrococcus sedentarius, Pseudomanas aeruginosa, Micrococcus kristinae and Staphylococcus aureus cell walls. (I) preferably also contains an Bacillus sp. alkaline protease. A process for producing (II) comprises cultivating a (II)-producing strain of Nocardiopsis under aerobic conditions in a culture medium containing assimilable sources of C, N and P, and then recovering II) from the culture broth.  $\circ$  (II) has a mol.wt. of 14,000 or 16,000 and an isoelectric point of 8.3 or 9.5. Also claimed are kiologically pure cultures of the N. dasschvillei strains. (I) is used in determents or in rinse compositions to remove the odor of dirty clothes, as a body decdorant, food rreservative or a disinfectant in food processing, for water treatment, disinfection of hospital inscruments, lysis of phomass in activated sludge, for sludge dewatering, or for protoplast production. It may also be used for cell lysis for recombinant protein purification. (36pp)

L14 ANSWER 8 OF 9 BIOTECHOS COPYRIGHT 2002 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1990-03489 BIOTECHIS

TITLE: Purification and characterization of two types of alkaline

serine proteases produced by an alkalorhilic

antinomycete;

chymotrypsin-like serine protease NDP-I, subtilisin-like serine protease NDP-II

production by **Nocardiopsis** dassenvillei subsp. prasina and characterization (conference paper)

AUTHOR: LOCATION:

SOURCE:

Tsujibo H; Miyamoto K; Inamori Y; Hasegawa T

LOCATION: Osaka University of Pharmaceutical Sciences, 10-65, Kawai 2-chome, Matsubara, Osaka 580, Japan.

J. Pharmacobiodyn.; (1991) 14, 12, s-149

CODEN: JOPHDO

DOCUMENT TYPE: Journal LANGUAGE: English

AB An interesting alkalophilic actinomycete isolated from scil,

Nocardiopsis dassonville; subsp. prasina OPC-210, produced 2

types of alkaling sering protected.

types of alkaline serine proteases. Proteases NDP-I and NDP-II were purified from the solture filtrate and characterized. Purified NDP-I and NDP-II were homogeneous (8D8-PAGE) and had mol.wt. values of 21,100 and 30,000 and pI values of 6.4 and 3.8, respectively. NDP-I had an optimum pH of 10 II and optimum temp. of 70 deg, while NDP-II activity was optimal at pH 10.5 and 60 deg. NDP-I was stable at pH 4-8 up to 60 deg and NDP-II was stable at pH 6-12 up to 50 deg. NDP-I and NDP-II were characterized as a chymotrypsin (EC-3.4.21.1)-like serine protease and a subtilisin (EC-3.4.21.14)-like serine

protease, respectively, on the basis of amino acid compositions and partial amino acid sequences. The partial amino acid sequences of NDP-II exhibited striking homology (65-) with that of agualysin-I. This is the first or access to the sequences.

A TERRIT NUMBER: FIRE 4.15.4.5.

TOWNERS NUMBER: FIRE 4.15.4.5

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proteases

Ts.jibo H; Miyamoto K; Haseqawa T; Inamori Y AUTHOR: CORPORATE SOURCE: Dsaka University of Pharmaceutical Sciences, Japan. SOURCE: AGRICULTURAL AND BIOLOGICAL CHEMISTRY, (1990 Aug) 54 (8) 2177-9. Journal code: AMA; 0370452. ISSN: 0002-1369. PUB. COUNTRY: Tapan Journal; Article; (JOUENAL ARTICLE) LANGUAGE: English FILE SEGMENT: ENTRY MONTH: 19:105 ENTRY DATE: Entered STN: 19950809 Last Updated on STN: 20000303 Entered Medline: 19910508  $= \cdot d his$ (FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002) FILE 'MEDLINE, EMBASE, BIOSIS, BICTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002 Lì 349244 S PROTEASE?  $L_{-}$ 6016 S ACID(A) STABLE 76 3 L1(A:L2 L31 3 NOCALIPOSIS L4L51 3 NCCARDIFOSIS 639 S NOCARDICESIS  $_{\rm L}$ 53 S LI AND LE  $L^{7}$ 1 3 L2 AHD L7  $L_5$  $_{\rm L}$ : 43556 S ANIMAL (W) FEED? Ll( L S L9 AND L7 Lll 1 3 COMPCAITION? 2805615 & COMPOSITION? L12L13 33 3 L12 AND L7 L:4 9 DUP REM L13 (13 DUPLICATES REMOVED) =: s 16 (A)(sr. or alba) 201 L6 (A) (SP. OF ALBA) =: s 115 and 17 L.C 22 LIS AND L7 - dup tem IIF PROCESSING CONSISTED FOR ALL 9 DUP REM 116 (14 DUPLICATED REMOVE) =: d l-8 ib.b ab L17 ANSWER 1 OF 8 MEDLINE DUPLICATE ! ACCESSION NUMBER: 2002130643 IN-PROCESS POCUMENT NUMBER: 21854941 FubMed II: 11866099

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TITLE:

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: Er.glish

IN-PROCESS; NONINDEXED; Priority Journals FILE SEGMENT:

OTHER SOURCE: GENBANK-AY027776

ENTRY DATE: Entered STN: 20020228

Last Updated on STN: 20020229

A novel alkaliphilic Nocardiopsis sp., strain TDA-1,

was isolated from a tile-joint of a pathroom. Strain TOA-1 produced a variety of alkaline hydrolytic enzymes. An alkaline protease,

designated NAPase, was purified and characterized. NAPase had a very high Rematinolytic autivity and high starility under abidic conditions.

L17 ANSWER 2 DF 8 MEDLINE DUPLICATE 2

ACCESSION NUMBER: 2001061976 MEDLINE

DOCUMENT NUMBER: .:0496785 PubMed ID: 11042393

TITLE: Comparative characterization of two serine endopeptidases

from Nocardiopsis sp. NCIM 5124.

AUTHOR: Dixit V S; Fant A

CORFORATE SOURCE: Division of Biochemical Sciences, National Chemical

Laboratory, 411343, Fune, India.

SOURCE: BIOCHIMICA ET BIOCHYSICA ACTA, (2000 Oct 18) 1823 (2-3)

161-5.

Journal code: ADW. ISSN: 0006-3002.

PUB. COUNTRY: Netherlands

Journal; Article; (JOUFNAL AFTICLE)

LANGUAGE: English

FILE SEGMENT: Pridrity Journals

010012 ENTRY MONTH:

Entered STN: 20010322 ENTRY DATE:

hast Updated on STN: 20011822 Entered Medline: 20031228

A protease-producing, crude oil degrading marine isolate was AБ

identified as Nocardiopsis sp. on the hasis of the

morphology, cell wall composition, mycolic acid analysis and DNA base

composition. The Nocardiopsis produces two extracellular proteases, both of which are alkaline serine endopeptidases.

Protease I was purified to homogeneity by chromatography on CM-Sephadex at 1H 5.0 and pH 9.0. Protease II was purified using

DEAE-cellulose, Sephadex G-50, phenyl-Sepharise and hydroxyapatite chromatography. Protease I and II had almost similar  $\dot{M}(r)$  of 21

kDa 'Protease I and 03 kDa (Protease II , pI of 3.) and 7.0 respectively with pH and temperature optima for activity between I..) and II.0 and about 60 degrees C. Specific activities were 152 and 14

"Img respectively on casein. However, Protease I was

untigenically unrelated to Protease II. both proteases

were endopeptidases and required extended substrate binding for catalysis.

Both proteases had collagenolytic and fill rinolytic activity but

only Protease I had elastinolytic activity. The

proteases were chymotrypsin-like with respect to their amino acid compositions and N-terminal sequences.

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THE PAIR OF THE CONTRIBUTION OF HIS MERICAL CONTROL, MAKE HALL MARK WIL

Laboratory, Eune, India.

Journal; Article; (JOURNAL ARTICLE)

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ENTRY MONTH:

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ENTRY DATE:

Entered STM: 20000505

Last Updated on STN: 20000505 Entered Mealine: 20000425

An actinemycete isolated from an oil-montaminated marine environment and AΒ identified as Nocardiopsis sp. degraded hydrocarbons and also produced extracellular protease. Schditions for crude cal degradation and simultaneous production of extracellular protease were studied. An alternative approach for bio-augmented clean-up of oil spills using a micro-organism capable of degrading hydrocarbons and recruiting organic nitrogen by producing proteases is reported.

L17 ANSWER 4 OF 8 HUMPLUS COPYRIGHT 2000 ACS ACCESSION NUMBER: - 1999:2:72:7 HCAPLUS

DOCUMENT NUMBER:

131:89199

TITLE:

Enzymic activity of microorganisms isolated from yam

bean legume (Fachyrhizus erosus L. Urban)

AUTHOR S):

Stamford, Tania L. Montenegro; Araujo, J. Magali;

Stamford, N. Pereira

CORPORATE SOURCE:

Departamento de Nutricao, Universidade Federal de

SOURCE:

Pernambudt, Redife, 50677-901, Brazil Ciendia e Techologia de Alimentos (1998), 18(4),

382-385

CODEN: STALDN; ISSN: 0101-2061

FUBLISHER:

Sociedade Brasileira de Ciencia e Tecnologia de

Alimentos

DOCUMENT TYPE:

Journal

LANGUAGE:

English

The isolation and identification of microorganisms that produce enzymes of com. interest utilizing tubers of yam been legume (Pachyrhizus erosus L. Urban) was the main objective of this work. Endophytic and epiphytic microorganisms were isolated by micromorphol. observation. The agar diffusion method was used to det. enzymic activity. Sixty-eight isolates from yam kean tukers were cultured at 18.degree. C in solid medium specific to amylase, lipase, protease and cellulase for 96 h. The epiphytic microorganisms fithingtes (7.3%), Aspergillus (12.2%), Fusarium (5.9%) and Trichogerma (5.8%) and the endophytic microorganisms Musor (7.1), Rhizopus (10.3) Earillus (12.4, Staphylosoccus (10.3) and Nocardiopsis (15)) were isolated. Compared to the specific std. adture Nocardiopsis sp. showed higher lipolytic activity and similar amylolytic activity. Mucor sp., Pithomyces sp. and Staphylococcus sp, produced proteclytic activity lower than the std.

culture. No isolate showed cellulolytic activity. REFERENCE COUNT:

THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LI7 - ANSWER 5 OF 8 BIOTECHES COPYRIGHT 2002 THOMSON DERWENT AND ISI ADDESSED NUMBER: 1996 1104 0 brown up .

Labouretta, leid des. ACTION OF STATEMENT OF STATEMEN ABBLIATION OF SUBJECT WOOD ARE SERVED TO THE RESERVED OTHER SOURCE: WPI: 1996-309622 [31] A new method for producing wool or animal hair material with improved properties involves plasma treatment (at low temp, via corona discharge or glow discharge) or the Delhey process, followed by treatment with a protease. The product has improved shrink-proofing, improved anti-felting properties, improved degree of whiteness, improved ayeability, loss of bundle strength tenacity, improved softness and/or reduced pilling tendency. The **protease** is used for 1-120 min at 21-70 deg or preferably 30-60 or 40-60 deg) in addit, neutral or alkaline medium, optionally with an anionic, nonionic or cationic surfactant. The enzyme is preferably subtilisin-PB92 (EC-3.4.21.62), subtilisin-309 or subtilisin-147 from Bacillus licheniformis, Bacillus alcalcyhilus, Bacillus cereus, Bacillus natto, Bacillus vulgatus, Badillus mydoide, Tritrachium album, Nocardiopsis dassonvillei, Nocardiopsis sp. NEEL 1818; Aspergillus sp., Ehizopus sp. or Mupor sp., or a subtilisin-3 9 variant with a G195F substitution. The **protease** is used at  $1.1 \cdot 10$  w/w·, based on wool or hair material. (46pp)

L17 AMSWER 6 OF 6 BICTECHDS COFYRIGHT 2002 THOMSON DERMENT AND ISI

ACCESSION NUMBER: 1931-02357 BIOTECHDS

TITLE: Protease-producing microorganism;

thermostable alkaline protease preparation from

Nocardiopsis sp.; purification and

characterization

FATENT ASSIGNEE: Snow-Brand-Milk-Prod.

FATENT INFO: UP 02288181 15 Oct 1990

APPLICATION INFO: UP 1989-76421 30 Mar 1989

FRIORITY INFO: UP 1989-76421 30 Mar 1989

DOCUMENT TYPE: Patent LANGUAGE: Japanese

OTHER SOURCE: WEI: 1990-352502 [47]

Ab A new protease-producing microorganism is an alkalophilic actinomycete, Nocardiopsis sp. DEC-DIC (FERM F-1-808), with a dell wall of meso-type III/C model, confirmed by 2,6-diaminopimelic acid determination, and phospholipid of the PIII model. The strain originates from soil. The protease is purified by acetone precipitation, dialysis, anion-exchange chromatography on DEAE-Sephadex A-50 and cation-exchange chromatography on CM-Sephanose CL-6B. The protease has the following characteristics: a mol.wt. of 21,00 - 3DS-FAGE); an optimum pH of 11-11 (on casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 1 for 30 min, and complete inactivation at 70 deg; residual sativity above 80 at pH 4 8 and 60 deg for 30 min, and inactivation at pH 10; stabilization by calcium ions; and inhibition by PCMB and EDTA. The protease is a useful thermostable alkaline protease. (4pp)

L17 ANSWER 7 OF & BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI ACCESSION NUMBER: 1988-08721 BIOTECHDS
TITLE: Lew strains of Nocardiopsis producing alkaline protease;

LANGUAGE: Estent
LANGUAGE: English
proteane

No. 542 40 4 4 10

growth below pH 8 and above 35 deg. The strain is Nocardiopsis dassonviller, preferably strain M58-1 or the new strain 10R or mutants of them. Also new is a method for preparing alkaline protease by bultivating a Nocardiopsis strain aerobically under submerged conditions in the presence of suitable C- and N-sources at a pH of 8-10 and temp. of 10-30 deg and recovering the enzyme from the sulture broth. The method may be used to culture recombinant microorganisms, preferably Nocardiopsis spp., Streptomyces spp., yeasts, or Aspergillus spp, especially Aspergillus bryzae, containing genes from the specified strains. Specifically slaimed is an alkaline protease obtained from Nocardiopsis sp. with at least 60 of its maximum activity in the pH range 7-11 with casein. A detergent additive composising the alkaline proteases is also new and is either prepared as a granulate or as a stabilized liquid. The additive preferably has proteolytic activity of 0.001-0.5 or 0.5-10 CPU/g and additionally has a Badillus sp. protease. 33pp)

L17 ANSWER 8 OF 8 BIOTECHDO COPYRIGHT 2000 THOMSON DERWENT AND ISI

ACCESSION NUMBER: 1988-08767 BIDTECHDS

TITLE: Enzymatic detergent additive with improved detergency; comprising Bacillus sp. and fundal or actinomycete

protease

PATENT ASSIGNEE: Novo

PATENT INFO: WD 8803946 : Jun 1988 AEPLICATION INFO: WD 1987-DK145 25 Nov 1987 PRIORITY INFO: DK 1986-8640 25 Nov 1986

DOCUMENT TYPE: Fatent LANGUAGE: English

OTHER SCURIE: WPI: 1988-161616 [23]

A new proteolytic detergent additive comprises a combination of at least I alkaline proteases, one of which is obtained from Bacillus sp. while the other is of fungal or actinomycete origin. The Bacillus protease comprises 50-30, preferably 70-95% of the total proteolytic activity 0.1-10 or 0.001-0.06 CPU/q. Also new are the formulations and the washing process using the detergent. The additive has improved detergency, preferably 20-40, better than that expected for the individual proteases. The proteases preferably have pH optima of 9 or over towards casein and the Bacillus one retains  $56-100 \cdot$  of maximum proteolytic activity at pH 12. The Bacillus sp. is preferably Batillus lichemiformis and the protease is preferably of the serine type. The fungal protease is preferably from Pascalomydes sp., Nocardiopsis sp., or Fusarium sp., e.pecially Paecilomyces marquandii, Nocardiopsis dassonvilled or Fusarium emysporum. The detergent additive is preferably provided as a non-dusting granulate or a stabilized liquid. In an example heat-denatured blood swatches were washed at 25 deg for 20 min at a total protease dosage of 0.1 CPU/I from Bacillus spp. and Nocardiopsis spp. (42pp)

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LID ANSWER 1 OF 2
                        MEDLINE
ACCESSION NUMBER: .0001061976
                                    MEDLINE
DCCUMENT NUMBER:
                     .:0493785 PubMed ID: 11042393
TITLE:
                     Comparative characterization of two serine endopeptidases
                     from Nocardiopsis sp. NCIM 5124.
AUTHOR:
                     Duxit V S; Pant A
CORPORATE SOURCE:
                    Division of Biochemical Sciences, National Chemical
                     Laboratory, 411008, Fune, India.
SCURCE:
                     BIOCHIMICA ET BIOPHYSICA ACTA, (2000 Oct 18) 1523 (2-3)
                     . 61-8.
                     Journal code: AOW. ISSN: 0006-3002.
PUB. COUNTRY:
                     Metherlands
                     Journal: Article: (JOURNAL ARTICLE)
LANGUAGE:
                     English
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                     Entered Mealine: 20001228
     A protease producing, trade oil degrading marine isolate was
     identified as Nocardiopsis sp. on the basis of the
     merphology, cell wall composition, mysolic acid analysis and DNA
     base composition. The Nocardiopsis produces two extracellular
     proteases, both of which are alkaline serine endopeptidases.
     Protease I was purified to homogeneity by chromatography on
     CM-Sephadex at pH 5.0 and pH 9.0. Protease II was purified using
     DEAE-collulose, Sephadem G-51, phenyl-Sepharose and hydroxyapatite chromatography. Protease 1 and 71 leaf to 1 leaf the collusion of the sepharose and hydroxyapatite
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were endopent, face, and required extended edictrate income to caracycle. Buth proteases had collagenolytic and fibrinolytic activity but the Protease of the control of the proteases.

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ANSWER 2 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI ACCESSION NUMBER: 1991-02357 BIOTECHOS Protease-producing microorganism; TITLE: thermostable alkaline protease preparation from Nocardiopsis sp.; purification and characterization PATENT ASSIGNEE: Snow-Brand-Milk-Prod. PATENT INFO: JP (2255)81 18 Dat 1990 APPLICATION INFO: JP 1989-76431 30 Mar 1989 PRIORITY INFO: JP 1989-76421 30 Mar 1989 DOCUMENT TYPE: Patent LANGUAGE: Japanese WPI: 1990-352502 [47] OTHER SOURCE: A new protease-producing microorganism is an alkalophilic actinomycete, Nocardiopsis sp. DFC-210 (FERM F-1-508), with a cell wall of mess-type III/C model, confirmed by 2,6-diaminopimelic acid determination, and phospholipid of the FIII model. The strain originates from soil. The protease is purified by acetone predipitation, dialysis, anion-exchange chrimatography on DEAE-Sephadex A-50 and dation-exchange chromatography on CM-Sepharose GL-6B. The protease has the following characteristics: a mol.wt. of 21,000 (SDS-PAGE); an optimum pH of 10-12 (on casein as a substrate); an optimum temp. of 60-70 deg; stability up to 50 deg at pH 10 for 30 min, and complete inactivation at 70 deg; residual activity above  $80^{\circ}$  at pH 4-8 and 60 deg for 30 min, and inactivation at pH 10; stabilization by calcium ions; and inhibition by PCME and EDTA. The protease is a useful thermostable alkaline protease. (4pp.) => d his (FILE 'HOME' ENTERED AT 13:58:10 ON 25 APR 2002) FILE 'MEDLINE, EMBASE, BICSIS, BICTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002 349244 S PROTEASE? L: T:: 6016 S ACID(A) STABLE L376 3 L1(A L2 F & NOCATORICSIS 1.4 1 3 NOCARDIPOSIA L5FAA S NINGARITOPSTA 55 8 31 **A**:D 16 1 8 32 **A**:D L7 L8 L943556 S ANIMAL (W) FEED? LlO 1 5 L3 AND L7 1 S COMPOSITIONS L11L12 2805615 s composition? L13 20 S LI2 AND L7 L14 9 DUP REM L13 (13 DUPLICATES REMOVED)

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     ICM A23K001-165
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     17-12 (Food and Feed Chemistry)
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             CR, CU, CO, DE, DK, DM, DO, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JF, KE, KG, KF, KE, KC, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MH, MN, MW, MH, MZ, NO, NE, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TC, UA, UG, US, UZ, VN,
             YU, CA, EW, AM, AC, BY, KG, KC, MD, RU, TU, TM
         EW: GH, GM, KE, LS, MW, MS, SD, SD, SD, TC, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MD, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
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     US 2000-183133P
                     Ρ
     Disclosed are acid-stable proteases homologous to those derived
AΒ
     from strains of the genus Nocardiopsis, their use in animal
     feed, feed-additives and feed compus. Scrig. such proteases, and
     methods for the treatment of vegetable proteins using such
     proteases.
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       Nocardiopsis
        (acid-stable Nocardiopsis proteases in animal feed)
ΙT
     Vegetable
        (proteins; treatment with proteinases in manufg. feed)
IT
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     kL: FFD (Food or feed use); BIOL (Biclogical study); USES (Uses)
        (soybear.; animal feed manuf. with proteinases and)
ΙT
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     EL: FFD (Food or feed use]; HIOL Biological study); USES (Uses)
        (vegetable; treatment with proteinases in manufg. feed)
     9001-92-7, Protease
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        (acid-stable proteases in animal feed
     9031-11 2, .beta. Galactanase 37278 89-1, Mylanase 37341-58-8, Phytase
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     :9346-28-6, Galactanase
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     LIFESCI' ENTERED AT 13:58:51 ON 25 APR 2002
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ACCESSION NUMBER: 2001-14034 BICTECHTS
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Cestergaard P F: Sjoeholm C FATFUT A. CEMPF: Folia:

LOWETTON: Faste, Switzerland:

LOWETTON: Months Faste, August
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LANGUAGE: English

OTHER SOURCE: WPI: 2001-488930 [53]

The use of at least one stable protease (EC-3.4.21.62) in :eedstuff where the protease has identity of at least 70 to a 198 amino acid sequence (I) and or a 17 amino acid sequence (II), is claimed. Also claimed are: improving the nutritional value of feedstuff; an animal food-additive; and treatment of vegetable proteins. At least one acid stable protease is useful in the preparation of a composition for use in feedstuff. The protease has 71. identity to (I) and/or (II). The dosage of the protease is 0.01-200 mg. The feed composition is useful for feeding animals, including humans. Animals include ruminants and non-ruminants i.e. monomeastric animals i.e. pigs, poultry and fish. The feedstuff comprises phytase, end:-1,4-beta-D-xylanase (EC-3.2.1.9), galactanase and/or beta-gludanase (EC-3.2.1.39). Soybean (Slydine max) is included amongst the vegetable source. (43pg)

AMSWER 2 OF 5 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND IST L28

ACCESSION NUMBER: 2001-16038 BIGTECHDS

TITLE:

Use of acid stable protease of the subtilisin for

producing a food composition;

for use as feedstuff, as a food-additive and in vegetable

protein treatment

AUTHOR: Oestergaard P R; Sjoeholm C; Kluenter A

FATENT ASSIGNEE: Roche

LOCATION: Basle, Switzerland.

PAMENT INFO: WD 1001058275 16 Aug 1001

TO THE PART OF FAB 2001 APPLICATION INFO: WD 2001-EPE152 5 Feb 2001 PRIOFITY INFO: DK 2000-200 8 Feb 2000

DOCUMENT TYPE: Patent English LANGUAGE:

LANGUAGE: English
OTHER SOURCE: WFI: 2001-489929 [53]

The use of at least one stable protease (EC-3.4.21.62) in teedstuff where the protease is of the subtilisin family and/or has less than 11 residual activity when inhibited with subtilisin, is claimed. Also claimed are: improving the nutritional value of feedstuff; an animal food-additive; and treatment of vegetable proteins. At least one acid stable protease is useful in the preparation of a composition for use in feedstuff. The protease is of the : Bit: Lisin family and/or 1): residual activity when inhabited with a ditulisin. The dosage of the protease is 0.01-200 mg kg of force. The feed composition is useful for feeding animals, including Lumans. Animals include ruminants and non ruminants i.e. monogastric amumals i.e. pigs, poultry and fish. The feedstuff comprises phytase, endori,4-beta-D-xylanase (EC-3.2.1.8), galactanase and or beta-glucanase EC-3.2.1.39). Soybean (Glycine max) is included amongst the vegetable rounde. (63pp)

L28 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 AGS ACCESSION NUMBER: 0001:597756 HCAPLUS POCUMENT NUMBER: 135:152030

I TOMESUL LUEB: LANGUAGE: History

PANITU A 11. NUM. CONTE

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    WD 2001058276
    A2
    20010816

    WD 2001058276
    A3
    20020221

                                                      WD 2001-EP1153 20010.05
           W: AE, AG, AL, AM, AT, AU, AC, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
                 CE, CU, CZ, DE, DK, DM, DC, EE, EC, FI, GB, GD, GE, GH, GM, HR,
           ER, SU, CZ, DE, DR, DR, DE, EE, EL, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, IP, KE, KG, KF, KR, KC, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MI, MW, ME, MC, ND, NC, FL, FT, EG, RU, SE, SE, SG, SI, SE, SL, TJ, TM, TR, TT, TC, UA, UG, US, US, VN, YU, CA, CW, AM, AC, BY, KG, KZ, MD, RU, TI, TM

EW: GH, GM, KE, ES, MW, MC, SD, SL, SC, TC, UG, CW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, FT, SE, TR, BF, BC, CF, CG, CI, CM, CA, GN, GW, ML, MR, NE, SN, TD, TG
      US 2001016797 A1 20011004 US 1001-779323 20010208
                                                    DE 2000-200 A 20000108
PRIORITY APPLN. INFO.:
                                                    US 2000-183133F P 20000217
ΑF
      Disclosed are acid-stable proteases homologous to those derived
      from strains of the ganus Nocardiopsis, their use in animal feed,
      feed-additives and feed compast contg. such proteases, and
      methods for the treatment of vegetable proteins using such
      proteases.
L28 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:597755 HCAPLUS
DOCUMENT NUMBER:
                                135:180105
                                Use of acid-stable subtilisin proteases in
TITLE:
                                animal feed
                                Oestergaard, Peter Rahbek; Sjoeholm, Carsten
INVENTOR S :
                                ; Kluenter, Anna-marie
PATENT ABSIGNEE(S :
                                F Hoffmann-La Roche A.-G., Switz.
SOURCE:
                                FOT Int. Appl., 63 pp.
                                CODEN: PIMKD2
DOCUMENT TYPE:
                                Patent
LANGUAGE:
                                English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
      PATENT NO. KIND DATE APPLICATION NO. DATE
      WC 2001058275 A2 27:10%16
WC 2001053275 A3 27:20211
                                                      WG 0001-EP1.52 20010005
           W: AE, AG, AL, AM, AT, AV, AV, EA, BB, FG, BR, BY, BZ, CA, CH, CN,
           DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
      BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
US 0001026797 A1 00011004 US 2001-779523 20010108
RITY APPLN. INFO.: DK 2000-200 A 20000208
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## proteases.

PRIORITY APPLM. INFO.:

proteases

DESCRIPTION OF SECURITY OF PROPERTY OF A CO A CHANGE MIMBER: PART OF THE THE

detergents

INVENTOR(S): Sjoeholm, Carsten; Nielsen, Bjarne

Ecenfeldt; Dambmann, Claus

PATENT ASSIGNEE(S): Novo Nordisk A/s, Den.; Sjoeholm, Carsten; Nielsen,

Ejarne Roenfeldt; Dampmann, Claus

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIMKD2

DOCUMENT TYPE:

Patent

LANGUAGE:

Engl:sn

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE Wd 9704082 A1 199702 6 WD 1996-DK299 19960702 W: AL, AM, AT, AU, AL, BB, BG, BE, BY, CA, CH, CN, CC, DE, DK, EE, ES, FI, GB, GE, HY, IL, IS, JF, KE, KG, KP, KR, KC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, ME, NO, ME, PL, PT, RO, RU, SD, SE, SG RW: KE, LS, MW, SD, DC, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,

IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA

A1 19970218 AU 1996-65128 19960701 EP 839187 A1 19930506 EP 1996-924787 19960710

E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI CN 1193996 A 19930923 CM 1996-196439 19960702 US 5948746 A 19930307 US 1998-7089 19980114

PRIORITY APPLM. INFO.:

19980114 DK 1991-844 19950719 WC 1996-DK299 19960760

ΑВ The present invention relates to novel proteclytic enzymes. More specifically, the present invention relates to proteolytic enzymes obtainable from strains of Amyotlata and Amyoplatopsis. Moreover the invention relates to a process for the prepn. of the proteolytic enzyme of the invention, as well as detergent additives and detergent compns. comprising the proteolytic engyme. The protease purified from Amydolatorsis mediterrane: had a mol. wt. of 33 kilodaltons and a pI of 9.1. The enzyme displayed >9% activity at pH 8%11 and had a temp. optimum between 30-45.degree, when detd. on casein substrate. Using glucagon as a substrate, the protease showed a preference for cleaving Arg-Arg and Trp-Leu Londs, with weaker activity at Lys-Tyr bonds. Determent formulations contq. the protease are presented.

er d his

Li 12 (FILE 'HOME' ENTERED AT .::58:10 (N 25 APR 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BICTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 13:58:51 (N 25 APR 2002

349244 S PROTEASE?

6016 3 ACID A STABLE

1.3 76 S LI ALL2

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L15
            201 S L6 (A) (SP. OR ALBA)
L16
            ... S L15 AND L7
L17
              2 DUP REM L16 (14 DUPLICATES REMOVED)
L13
             1 3 L6 A:NRRL18262
L19
              I 3 117 AND ACID
              DUP REM L13 (O DUPLICATES REMOVED)
Lii
                E SJOEHOLM J/AU
             10 S E3
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             13 S E4
L \perp L
             If a 1.11 of 1.12
L = 3
             I S LT AMP L.E
LL.4
                E GESTERGAARD P R/AU
LIE
             5 S E3
LI.6
             05 5 h 3 CF L05
L.17
              E S III AND INC
LDB
              f DU: REM L27 () DUPLICATES REMOVED)
= k s 128 and 115
LL3 0 L28 AND L15
= 8 s 128 and 12
             4 L28 AND 12
=> dup rem 130
PROCESSING COMPLETED FOR 1800
Lil
             4 DU: REM L3 () DUPLICATES REMOVED)
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    ANSWER 1 CF 4 BICTECHD3 COPYRIGHT 2002 THOMSON DERWENT AND ISI
ACCESSION NUMBER: 2001-16039 BIOTECHDS
TITLE:
                  Use of acid stable protease for
                  producing a food composition;
                     for use as feedstuff, as a food-additive and in vegetable
                     protein treatment
AUTHOF.:
                 Oestergaard P R; Sjoeholm C
PATENT ASSIGNEE: Roche
LOCATION:
                 Basle, Switzerland.
PATENT INFO:
              WD 2001058276 16 Aug 2001
APPLICATION INFO: W0 2001-EP1153 5 Feb 2001
PRIORITY INFO: DM 2000-. 00 8 Feb 2000
DOCUMENT TYPE:
                 Fitent
LANGUAGE:
                 English
OTHER SOURCE: WFT: 2001-488330 [53]
Ab.
     The use of at least one stable protease (EC-3.4.21.62) in
      feedstuff where the protease has identity of at least 70 \cdot to a
      183 aminc acid sequence (I) and or a 17 aminc acid sequence (II), is
      claimed. Also claimed are: improving the nutritional value of feedstuff;
     an animal food-additive; and treatment of vegetable proteins. At least
      one acid stable protease is useful in the
      preparation of a composition for use in feedstuff. The protease
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(i) The substitution of the substitution of

acid stable protease

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the subtilisin for producing a food composition; for use as feedstuff, as a food-additive and in vegetable

protein treatment

AUTHOR: Oestergaard P R; Sjoeholm C; Kluenter A

PATENT ASSIGNEE: Roche

LICATION: Basle, Switzerland.

PATENT INFO: Wo 2001058275 16 Aug 2001 APPLICATION: INFO: WO 2001-EP1152 5 Feb 2001 PRIORITY IMPO: DR 2000-200 & Feb 2100

DOCUMENT TYPE: Patent LANGUAGE: English

LANGUAGE: English
OTHER SOURCE: WFI: 2001-488929 [53]

The use of at least one stable protease (EC-3.4.21.62) in feedstuff where the protease is of the subtilisin family and/or has less than 10° residual activity when inhibited with subtilisin, is claimed. Also claimed are: improving the nutritional value of feedstuff; an animal food Additive; and treatment of vegetable proteins. At least one acid stable protease is useful in the preparation of a composition for use in feedstuff. The protease is of the subtilisin family and/or 10 residual activity when inhabited with subtilisin. The dosage of the protease is 0.01-200 mg/kg of feed. The feed composition is useful for feeding animals, including humans. Animals include ruminants and non-ruminants i.e. monogastric animals i.e. pigs, poultry and fish. The feedstuff comprises phytase, endc-1,4-keta-D-xylanase (EC-3.2.1.8), galactanase and/or keta-glucanase

(EC-3.2.1.39). Soyhean (Glycine max) is included amongst the vegetable

LB1 ANSWER 3 OF 4 HEAPLUS CORYALGHT 2002 AGS ACCESSION NUMBER: 2001:597756 HCAPLUS

DOCUMENT NUMBER: 135:152030

Use of acid-stable TITLE:

proteases in animal feed

Oesterdaard, Peter Rahbek; Sjoeholm, Carsten INVENTOR(S):

F Hoffmann-La Roche A.-G., Switz. PATENT ASSIGNEE(S):

SCURCE: PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

source. (63pp)

PATENT INFORMATION:

FATENUMO. KIND DATE APPLICATION NO. DATE \_ \_ \_ - - - - -WC 2001058276 A2 20010616 WO 2001058276 A3 20020221 WC 200.-EP1153 20010205 W: AE, AG, AL, AM, AT, AU, AZ, BA, EB, BG, BE, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RC, RU, SD, SE, SG, SI, SE, SI, TI, TM, TE, TT, T2, MA, MG, MS, MM, MM,

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acid stable proteases

using such proteases.

L31 ANSWER 4 DF 4 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2001:597755 HCAPLUS DOCUMENT NUMBER: 135:160103 TITLE: Use of acid-stable subtilisin proteases in animal feed INVENTOR(3): Destergaard, Peter Rahbek; Sjoeholm, Carsten ; Kluenter, Anna-marie PATENT ASSIGNEE( $\mathcal{E}$ ): F Hoffmann-La Roche A.-G., Switz. SOURCE: POT Int. Appl., 63 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT: 2 PATENT INFORMATION: KIND DATE AFFICATION NO. DATE PATENT NO. 
 WO 2011058275
 A2
 20010816

 WO 2001058275
 A3
 20020201
 WO 2001-EP1152 20010205 W: AE, AG, AL, AM, AT, AU, AC, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CF, CU, CZ, DE, DK, DM, DC, EE, ES, FI, GB, GD, GE, GH, GM, HR, EF, GU, JZ, BE, DR, DM, DS, EB, ES, FI, GE, GD, GE, GN, GM, HR, HU, HD, IL, IN, IS, JP, KE, KG, KF, KR, KC, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MI, MW, ME, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TI, TM, TE, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, CW, AM, AZ, BY, KS, KZ, MD, EU, TI, TM

EW: GH, GN, KE, LS, MW, MZ, SD, SL, SC, TZ, US, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FF, GB, GE, IE, IT, LU, MC, NL, PT, SE, TR, BF, BI, CR, CG, CI, CM, CZ, CM, CW, MR, ME, SH, TD, TC BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG US 1001026797 A1 20011004 US 1001-779323 20010108 PFIORITY APPLN. INFO.: DE 2000-200 A 20000008 US 2000-183133P P 20000117 AΒ Disclosed are acid-stable proteases of the subtilisin family, their use in animal feed, feed-additives and feed compans, contq. such proteases, and methods for the treatment of vegetable proteins using such proteases. => d his YILE 'HOME' ENTURED AT 18:50:10 M OF AFR 2002 FILE 'MEDDINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 15:58:51 ON 20 APR 2002 Ll 349244 S PROTEASEY 6016 S ACII (A) STABLE L2L3 76 S L1(A) L2 L4O S NOCADIPOSIS 9 S MOCARDIPOSIS Ree s Nocarpiopsis

1911 - Komo Michiel M. 1915 - Gold Michiel 1944 - World Day (1930) Borner Garden Garden

L18 0	S L6(A)NRRL18262
L19 2	S L17 AND ACID
L.10 2:	DUP REM L19 (0 DUPLICATES REMOVED)
	E SJOEHOLM C/AU
L.11 10	S E3
L22 13	S E4
LD3 23	S L.1 OF L.22
L.14 1	S LT AND LAR
	E OESTERGAARD P R/AU
L25 5	S E?
L16 25	S LL3 OR L25
LL7 5	S Ll AND L26
L18 5	DUP REM L27 (0 DUPLICATES REMOVED)
L29 0	S L.18 AND L15
L30 4	S L28 AND L2
L51 4	DUP REM L30 (0 DUPLICATES REMOVED)

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	L #	Hits	Search Text
1	Ll	27383	protease\$2
_,	L2	107	nocardiopsis
3	1.3	19	11 same 12
;	L4	3735	"sp." or alba
5	L5	1	12 adj 14
•õ	L6	5396	animal adj feed
7	L7	19	ll same 13
8	L8	19	17 same 13
9	19	·	le same is
10	110	5828	acid adj (resistant or stable)

And the East State of the State

	L #	Hits	Search Text
13	L13	0	oesterogaard.in.
14	L14	1	oestergaard.in.

	U	1	Document ID	Issue Date	Pages
1			US 20010026797 Al	20011004	18
2			US 5558640 A	19960924	6

And the American State of the American

	Title	Current OR	Current XRef
1	Use of acid-stable proteases in animal feed	424/94.6	426/54
I	System for infusion of medicine into the body of a patient	16/11/17/6/7	604/891.1; 607/32

,	Retrieval Classif	Inventor	S	С	P	2	3	4	5
1		Sjoeholm, Carsten et al.							
2		Pfeiler, Manfred et al.							

	I	mage Doc. Displayed	РТ
1	US	20010026797	
2	US	5558640	

, PACT TABLE E.: ...

	L #	Hits	Search Text
1	L1	27383	protease\$2
2	L2	107	nocardiopsis
3	L3	19	11 same 12
4	L·1	3735	"sp." or alba
5	Lō	1	: :12 adj 14
6	Lб	5596	animal adj feed
7	L7	19	11 same 13
8	L3	19	17 same 13
9	19		16 same 13
10	L10	5828	acid adj (resistant or stable)

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All of the EAST West States

	L #	Hits	Search Text
13	L13	0	oesterogaard.in.

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	Document ID	Issue Date	Pages	Title
1	US 20010003220 A1	20010614	14	METHOD FOR ENZYMATIC TREATMENT OF WOOL
2	us 20010026797 A1	20011004	19	Use of acid-stable proteases in animal feed
3	US 4927558 A	19900522	22	Proteclytic detergent additive and compositions containing the same
4	US 5312748 A	19940517	13	Protease
5	US 5646028 A	19970708	18	Alkaline serine protease streptomyces griseus var. alkaliphus having enhanced stability against urea or guanidine
6	US 5705379 A	19980106	14	Nuclectide sequences encoding a thermostable alkaline protease
7	US 5811382 A	10080922	Ý	leterment compositions
æ	US 5837517 A	19981117	24	Protease variants and compositions

in the large table where the contraction

	Document ID	Issue Date	Pages	Title
10	US 6051033 A	::0000418	8	Method for enzymatic treatment of wool
11	US 5087315 A	::0000711	10	Protease variants
12	US 6099588 A	0000808	10	Method for treatment of wool
13	US 6100089 A	:.0000808	10	Method for enzymatic treatment of biofilm
14	US 5110884 A	::0000829	10	Protease variants
15	US 5140109 A	20001031	7	Method for enzymatic treatment of wool
10	US 6190900 B1	0001022p	24	Subtilase variants
17	US 6256129 RI	20010710		Method for enzymatic treatment of wool

	Document	ID	Issue Date	Pages	Title
19	US 6300116	В1	20011009	:	Modified protease having improved autoproteolytic stability

	Document ID		_	Title
1	US 20010026797 A1	20011004	18	Use of acid-stable proteases in animal feed